

Notice of Allowability

Application No.

10/726,167

Examiner

David S. Kim

Applicant(s)

AOKI ET AL.

Art Unit

2613

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 31 January 2007.
2. ☒ The allowed claim(s) is/are 1-26.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Brian Oaks on Thursday, 10 April 2007.

The application has been amended as follows:

In the abstract

Replace the abstract with the following text:

An optical cross-connect includes multiple input ports that each receives an optical input signal and multiple output ports that each output an optical output signal. The optical cross-connect also includes a distributing amplifier associated with each input port that generates multiple copies of the input signal received at the associated input port and multiple filter units that receive one or more of the copies and forward traffic in selected channels of particular copies. In addition, the optical cross-connect includes a combining amplifier associated with each output port that receives the traffic forwarded by one or more of the filter units and combines the received traffic into an output signal. Moreover, the optical cross-connect includes at least one upgrade input port and at least one upgrade output port expanding the capacity of the optical cross-connect, as well as associated upgrade distributing and combining amplifiers and upgrade filter units.

Conclusion

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kuroyanagi et al. (U.S. Patent No. 6,154,583) is cited to show a related coupler-based optical cross-connect (Fig. 11). Bala et al. (U.S. Patent No. 6,335,992 B1) is cited to show an optical cross-connect that allows service providers to economically and efficiently handle capacity upgrades (abstract). Marom (U.S. Patent Application Publication No. US 2002/0197000 A1) is cited to show an optical cross-connect that comprises passive couplers and filter units (Fig. 8). Doerr et al. (U.S. Patent No. 6,532,090 B1) is cited to show an optical cross-connect that comprises distributing components, filter units, and combining

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components (Fig. 7). Weverka et al. (U.S. Patent Application Publication No. US 2004/0208550 A1) is cited to show teachings of upgrading an optical cross-connect (e.g., Fig. 10A-12H). Weverka (U.S. Patent Application Publication No. US 2004/0208551 A1) is cited to show teachings of upgrading an optical cross-connect (e.g., Fig. 8A-8G). Bortolini (U.S. Patent No. 6,813,408 B2) is cited to show teachings of upgrading an optical cross-connect (e.g., Fig. 8A-8G). Castanon et al. (U.S. Patent No. 6,959,128 B2) is cited to show related coupler-based optical cross-connects (e.g., Figs. 1 and 4). Bortolini et al. (U.S. Patent No. 7,079,723 B2) is cited to show teachings of upgrading an optical cross-connect (e.g., Fig. 8A-8G). Chang et al. ("Design and Analysis of a Multicasting and Fault-Tolerant Optical Crossconnect for All-Optical Networks") is cited to show teachings of expanding an optical cross-connect (p. 228-230, section 2.2). Koga et al. ("Large-capacity optical path cross-connect system for WDM photonic transport network") is cited to show teachings of expanding an optical cross-connect (e.g., p. 1263, Fig. 6).

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David S. Kim whose telephone number is 571-272-3033. The examiner can normally be reached on Mon.-Fri. 9 AM to 5 PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth N. Vanderpuye can be reached on 571-272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DSK



KENNETH VANDERPUYE
SUPERVISORY PATENT EXAMINER